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FUTURE WAR PAPER

Implementing Distributed Operations Within Current Force Structure and Command and Control Hierarchy

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Introduction

The purpose of this paper is to demonstrate that the Marine Corps can implement Distributed Operations (DO) without changing the current force structure or command and control hierarchy. This paper will present the currently proposed examples of incremental implementation and address how the current structure is able to absorb adaptation while providing for continuity of command and control.

This paper begins with an explanation of what DO entails. It will then provide a discussion of why DO is relevant and how it nests within emerging concepts. This background information will provide a common language in order to facilitate a discussion of what command and control and force structure is required to facilitate an incremental implementation of DO.

This paper will then transition to the crux of the current debate: why force structure and command and control (C^2) relationships should change prior to implementation. Once the debate is understood, the paper will address force structure and C^2 measured in relation to the five characteristics of DO: decentralization, complexity, multi-dimensionality, simultaneity, and continuous pressure. Next an evaluation is required of the current DO implementation courses of action. Finally, this paper will conclude with how the Marine Corps can implement DO without changing the current force structure or command and control hierarchy.

What is DO?

As stated in the Center for Emerging Threats and Opportunities (CETO) Pre-decisional Draft F of 5 October 2004:

“The concept of *Distributed Operations* describes an approach, applicable at the operational and tactical levels of war, by which a commander disperses and concentrates networked forces, generates actionable intelligence, and directs precise joint fires to shape the battlefield and act as “reconnaissance pull.” This approach seeks to create an enhanced positional, psychological, technological, and temporal advantage over an adversary. This concept embraces the principle of *maneuver* and captures the idea that a commander moves and positions his forces in combination with the other warfighting functions to put the adversary at a

disadvantage. For purposes of clarity, “Networked” means that forces involved within the operations will be working toward a common purpose, regardless of physical separation. The combination of commander’s intent, other command processes, advantaged technologies, and training will enable distributed forces to work in unison toward a desired effect.”¹

The evolution of DO is part of an intellectual investment. DO may be seen as an additive or additional capability (as a technical or functional concept²) to maneuver warfare (an operating concept³) and has a current relevancy. DO is not a stand alone operating concept, but rather a portion of a larger concept similar to operational maneuver from the sea (OMFTS) or maneuver warfare. DO is developed in concert with, or as a adjunct to, the United States Marine Corps’ Expeditionary Maneuver Warfare (EMW), Ship-to-Objective Maneuver (STOM), Operational Maneuver from the Sea (OMFTS), Maritime Pre-positioning Force Future (MPF-F) and Sea-basing. The DO concept has operational and tactical relevancy to existing Joint, Marine Corps and emergent concepts.

DO is a tactic presently, nothing more. It will give units from fire teams to battalions the ability to leverage technology and increase their presence on the battlefield. As Mr. Frank Hoffman, a project manager at the Marine Corps’ CETO, states in the Pre-decisional Draft “*Distributed Operations from the Sea:*”

The concept of *Distributed Operations* fills a capability gap between conventional and special operations forces while exploiting the attributes of decentralization, continuous pressure, multi-dimensionality, and simultaneity when applied in conjunction with conventional forces. This combination of capabilities compounds the adversary’s dilemma and enhances the joint force’s effectiveness thereby increasing the potential for achieving decisive results. The concept of *Distributed Operations* provides the commander the ability to achieve advantage by providing multiple, simultaneous actions to dominate multiple domains through a decentralized but networked application of capabilities.⁴

Why DO?

Given the current administration’s guidance to “transform” the services and in the process to “take a step to the right,” DO enables the Marine Corps to do both by taking a highly

effective fighting force and enhancing its capabilities by becoming more special operations capable. In Admiral Arthur Cebrowski's (Secretary of Defense as Director, Force Transformation) discussion paper, *Transforming Transformation: Will it Change the Character of War?* he states the President's *National Security Strategy* guidance mandates a shift from a *preventative* or threat based model to a capabilities based one.

“...we have become so proficient in conventional state level conflict that the locus of violence has shifted to the level of the individual actor... We are discovering that our forces must be rebalanced and realigned to the new strategic context. Responsive means *reactive* – that we have ceded initiative to an adversary... that the consequences of a potential WMD attack mandate that we be *preventative*... For example, if we are going to be preventative rather than just punitive, a change in intelligence capabilities is indicated. Clearly, we have to know more sooner. We must acquire the ability to better identify and understand potential adversaries. This calls for different organizations, different systems, and different ways of sharing intelligence.”⁵

This paradigm shift places a premium on future intelligence gathering capabilities and precision engagement. Intelligence gathering and precision targeting are precisely what DO will showcase. Improvement of initial combat capabilities will also be greatly enhanced by DO, as distributed units are able to conduct operations immediately upon entry into a Combatant Commander's area of operations. In conjunction with seabasing, using the littorals as maneuver space, DO capable units will have the mobility to insert and extract in a forced entry manner. This enhances the Marine Corps expeditionary culture and expands the ability to carry out irregular war. Thus DO should provide the commander options and multiple paths to tactical and operational success.

Command and Control Dilemma?

As we transition from the industrial age to the information age, changes in organizational structures are occurring. Historically the business and managerial world restructures in order to take advantage of the latest information technologies. It is believed and articulated by some that while the business world is on the cusp of technology the military is tied to a classical

Frederickian hierarchical organizational structure.⁶ The latest evolution in information technology is a global, non-hierarchical network. The United States Air Force's Scientific Advisory Board in their 1996 *New World Vistas: Communications*, draft report concluded that the US Military at some point will join the business world and alter their command and control to a non-hierarchical network..⁷

In addition to the Air Force's study, the Marine Corps is considering an alternative command and control structure. Brigadier General Robert Schmidle, in his Jul 2004 Marine Corps Gazette article, *Distributed Operations: From the Sea*, states for successful implementation of DO requires enhancement of the six warfighting functions. In particular, under command and control, he cites a requirement for "a robust and resilient network that connects commanders and units conducting distributed operations".⁸ He implies through his use of "the right approach and connectivity," that this networked communications, which drives the common operating picture, will translate into an alternative command and control structure. These arguments are but a few by those who endorse altering the command and control hierarchy.

How Current Force Structure Addresses DO Characteristics

The five main characteristics of DO are decentralization, complexity, multi-dimensionality, simultaneity, and continuous pressure. Additionally, the guiding principle which the five characteristics of DO operate within calls for distributed forces to operate over an extended battlespace in a distributed fashion, reaggregate into a larger unit or swarm onto an objective.

"Distributed operations are predicated on the decentralized means of command and control (C²). They require situational awareness, autonomy, and increased freedom of action at the lowest tactical levels, thereby allowing subordinate commanders to compress decision cycles, seize the initiative, and exploit fleeting opportunities."⁹

The fundamental characteristics of DO are such that they stray little from current Marine Corps thinking and have little impact on the present force structure or its core competencies.¹⁰ To accomplish this, they require units to maneuver in a highly decentralized and dispersed command and control environment. These forces rely on shared situational awareness provided by the advent of adequate networked communications and command and control.

(It may appear that the section on decentralized is too heavily weighted and the other arguments are insufficiently proportioned. That is not the case. Decentralized is in the proper proportion to its importance.)

Decentralization of the force seeks to gain advantage through increased tempo. The manner in which DO units would increase their tempo would be by lowering the organizational level at which decision making and execution occur. The Marine Corps recognizes this compression as shrinking the decision cycle of Col Boyd's "OODA Loop" (Observation, Orientation, Decision, Action).¹¹ At the tactical level the small unit leader compresses the decision cycle. If properly empowered by a shared situational awareness and a clear commander's intent, distributed units will increase operational tempo by acting on information more rapidly and independently. This independence and shared information allow for modularization, the swarming, and the reforming of distributed units into more conventional general purpose units.

The operating concept of maneuver warfare and the core competency of the Marine Corp's warfighting culture and dynamic decision-making provide the necessary enduring doctrine for current force structure and DO capable units. Maneuver warfare is based on rapid, flexible, decentralized decision-making. DO takes maneuver warfare and technology in order to leverage the chaos of the modern battlefield. Similar to the mission of ground reconnaissance,

distributed forces will provide immediate reconnaissance, surveillance, and target acquisition to the ground combat element (GCE). Distributed forces will have to operate in a highly mobile and fluid environment. Their command structure will have to imbue those DO forces with a high degree of freedom of action at the lowest levels. By doing so decision cycles will be compressed and allow for rapid adaptation, the hallmark of maneuver warfare.

The requirement for command and control is not diminished. On the contrary, the very nature of the agile and dispersed force requires the close oversight of situationally aware commanders -- not to interfere, but continually push requirements to DO units.

“While Marines leverage technology to enhance tempo and decision making capabilities—their training, education, and experience foster decisiveness even in the absence of perfect information. This ‘decision superiority’ recognizes that technology will never fully obviate fog and friction, and that the human ability to make effective decisions in battle is best achieved by intuition built through rigorous training, practiced discipline, and relevant experience.”¹²

It is true decision making must be pushed to the lowest level. This does not mean the restructure of the C² architecture.¹³

Currently, the Marine Corps’ table of organization is structured and staffed to function across a broad range of military operations. Marine Air Ground Task Force (MAGTFs) are a balanced, flexible combined-arms oriented, and they task-organized forces. The Marine division is structured along clearly defined hierarchal levels. This evolution may be traced back to World War I when the Marines had a brigaded structure. At the time, the military was riding the cusp of managerial theory, which actually dates back to the 18th Century.¹⁴ The number of subordinates, or span of control, at any one level of command varies by circumstances ranging from the degree of difficulty of the tasking to the level of supervision a unit leader requires. This span of control, dictated by the number of subordinates under a commander, is usually between three to five units.¹⁵ Some exceptionally gifted commanders are able to supervise and effectively command larger quantities of subordinates.

The table of organization meets the two central requirements as stated in MCDP 1, that of deployability and the unit's ability to task organize.¹⁶ Distributed units could capitalize on the ability to adapt rapidly. The overarching principle of DO is the ability for the command to disperse and operate in small units. Crucial to these forces is the ability to task organize and the ability to reorganize or conduct self-reorganization on the move. The current force structure provides for this as shown in recent conflicts and would require only minimal training to overcome difficulties in certain techniques (e.g. swarming).

The ability of these forces to reorganize and assume different missions while remaining distributed is a critical factor. Distributed forces may be required to conduct aggressive patrolling and intelligence gathering, raids, ambushes, or limited objective attacks. As enemy forces are identified and targeted, these distributed units have to combine or mass their combined effects in coordinated attacks with other distributed units or indigenous forces. The swarming of units or the full re-aggregation of the distributed units would produce large, mobile conventional forces, all the while applying massed effects on the enemy at the critical time and place.

Complexity, according to the DO concept, means presenting a non-linear, unpredictable force across the extended battlespace. The complexity of the modern battlefield necessitated the current force structure. Working in extended formations following a "reconnaissance pull ideology," current Marine Corps force structure is well suited for operations in a complex environment. The training of the corporals and sergeants, coupled with their higher adaptability and their acceptance of technology, makes them more able to cope in a complex environment. The extended hierarchal structure, though complex in its own right, is there to minimize complexity. It does so by limiting the amount of inputs and focuses the commander's attention.

To some, the Marine table of organization may be considered bloated and unresponsive.¹⁷ On the contrary, by the nature of hierarchal command and control structure, leaders are able to overcome challenges by displaying a wide variety of flexibility and adaptability. This organizational structure is required for operations and planning. From the battalion to division level the organizational structure has ebbed and flowed becoming larger and smaller as the situation demanded. There exists other reasons for staffs and layered hierarchy which one may not normally consider. First there is the idea of redundancy. To the unpracticed eye they may appear wasteful until you take into account battle attrition and mundane aspects such as fatigue and sleep rotation. The numerous staff officers filled important functions within the command hierarchy from the company to the division level. They can be used as replacement commanders if necessary.

Some assert that a flattened hierarchical structure would better suit the networked structure presented by the nature of DO.¹⁸ This is a faulty assumption based upon civilian managerial thought. On the surface, the concept of networked and matrix organizations utilizing frequent interactions to develop a shared situational awareness makes a case for possible experimentation if not outright implementation. Flattened hierarchies work best in an uncertain market, tailored for specificity (favorable specificity entails that there is customization of product or services).¹⁹ While networked units do tend to have a flattened hierarchy, they still require one chain of command and are best employed in a less complex environment. The arena of combat is anything but one of low complexity.

Multi-dimensionality seeks multiple forms of maneuver and multiple sources of fires. This characteristic aligns closely with the guiding principle of operating distributed, swarming and reaggregating units back under their parent units as general purpose forces. Multiple sources

of fires relates to the near instantaneous, all weather capable requirement of DO. Multi-dimensionality seeks to create confusion and a sense of futility within the enemy.

Marine Corps units presently employ decentralized command and control and inherently utilize combined arms for maneuver warfare. Because Marines understand the single battle concept they are able to operate with multiple simultaneous decision cycles function at once. Within each level of the hierarchy there are multiple functions operating across the depth and breadth of the battle-space. These inter-related functions and staffs have better situational awareness to the immediate concerns of the appropriate level commander's guidance and embrace the combined arms effect of placing the enemy "on the horns of a dilemma," whereas a flattened or networked model would have only the inputs and guidance of the single commander who may become quickly overwhelmed by information and decisions.

Simultaneity is the combined effects across the breadth and depth of the battlefield and in time and space. It is like multi-dimensionality in that it is akin to the MEF single battle concept but at the Combatant Commander level. Using the guiding principle of DO, visualize a distributed battalion sized unit conducting multiple attacks against an adversary's front, flanks and his interior. These would be coordinated attacks and applied to create the greatest synergistic effect.

The ability to operate distributed and conduct multiple coordinated attacks should be resident in present C² and available force structure. Expeditionary maneuver warfare points DO in this direction, as the Marine Corps' current C² architecture meets at least a portion of this requirement. Whether conducting offense or defense, the Marine Corps C² is able to plan and execute operational reach, flexibility, joint interoperability and logistically support the operational requirements of the forces employed.

Continuous pressure degrades the enemy's ability to effectively carry out operations and by extension paralyze him. By placing continuous pressure on the enemy, DO ensures which ever choice an enemy commander makes, it will be the wrong one. This again falls in the realm of simultaneity and single battle concept.

Continuously striking the enemy will keep him off balance is the essence of maneuver warfare. Current structure addresses this less but doctrine makes up for that lacking. Additionally, the C² currently utilized allows for the separate, yet integrated kinetic and non-kinetic effect. This pressure is applied upon the enemy in numerous ways and across multiple dimensions.

How would DO be implemented without impacting current structure?

Possible DO Implementation

Incremental fielding of the DO concept allows for immediate implementation and eventual migration of the concept to the entire battalion. CETO, in an April 2004 brief, envisioned two scenarios for the implementation of DO both could be integrated into a Marine Expeditionary Unit, Special Operations Capable MEU (SOC) training and deployment cycle. CETO briefed these concepts or courses of action (COA) that outlined the implementation and establishment of the initial DO capability. Both COAs are based upon a Marine Corps rifle battalion. The assumption is that the unit to undergo the evolution is a typical rifle battalion. This assumption reinforces the argument that there is no requirement to change.²⁰

The first COA, or Company COA, takes an infantry battalion and trains an entire company in the tactics, techniques, and procedures (TTP) of DO (see Annex A). Additionally, the scout sniper platoons and associated tactical air control parties from headquarters and service company will also be trained in DO. One company at a time would be trained in DO in order to

provide less stress on the other non-DO companies in the battalion. With one company per battalion initially trained, this method would more easily provide detachments for missions, but does not facilitate DO at the battalion level.

The second COA, or Platoon COA, quickly establishes the DO capability throughout the battalion. To accomplish this, the initial training of a platoon from each company within the battalion, along with the battalions scout snipers, would achieve DO capability throughout the battalion. By placing the capability in each company rather than in a separate company it would diminish the idea of a “special” unit within the battalion. Finally, it would serve another purpose, that of placing a cadre of DO trained personnel within each company. The DO capability trained throughout the battalion would take root more easily by virtue of it being resident within each company.

The two COAs may be implemented without altering the present Marine Corps force structure. Each COA has differing implementation issues, but the challenges will be a matter of training rather than organization. Additionally, the goals the commander has in mind and how he envisions employment will vary in each unit. The entirely fielded DO company would correspondingly distance itself from the other commanders initially because “he has something” they do not possess. The fielding by a platoon per company will both provide a training base and effectively spread the capability across the battalion in short order. A MEU (SOC) unit could train to the capability by either method but would have the advantage of a set training cycle and more available funding. Naturally if the Marine Corps’ goal is entirely fielded DO capable battalions, then the training of a platoon for each company of a battalion would accomplish this in the most effective manner.

Conclusion

The intent of this argument was to demonstrate that there is no requirement to restructure current Marine Corps force structure for the implementation of DO. This paper examined how some desire a restructuring of current Marine Corps command and control and how the current force structure and command and control will serve for DO units. It also examined current proposed examples of incremental implementation for continuity of command and control.

DO is an attempt to reduce friction and uncertainty from military operations by pushing decision making to the lowest levels of command. There will always be the unknown stemming from an incomplete intelligence picture. The snapshot a commander receives (when available because the young leader usually has better things to do in the thick of the fray than to send a detailed situation report) will often be incomplete or more likely inaccurate. Reducing these inaccuracies and incomplete reports by some automated functions is a partial solution. Some suggest that the nature of the force structure is at fault. Altering the current force structure and injecting technology will not result in a near perfect intelligence picture. Nor will enhanced networked lateral communications enable the distributed force to reorganize and recombine and conquer any would be threat. This is a matter of training and personnel selection.

Restructuring the Marine Corps is not the answer to the intelligence picture being blurred. Friction is and always will be present in military operations. As stated in MCDP 1, *Warfighting*, “In this dynamic environment of interacting forces, friction abounds.”²¹ It goes on to say “War is intrinsically unpredictable.”²² So how does the implementation of DO affect the current force/command structure? Simply put, it does not. Currently command relationships and authority are clearly defined. Altering the organization for minimal perceived gain is not the answer. The force structure is sound and can absorb the increased flexibility required by the

lowest levels. The issue is ensuring that the small unit leader is fully prepared for future complex situations.

Annex A: CETO's Proposed Implementation of Distributed Operations

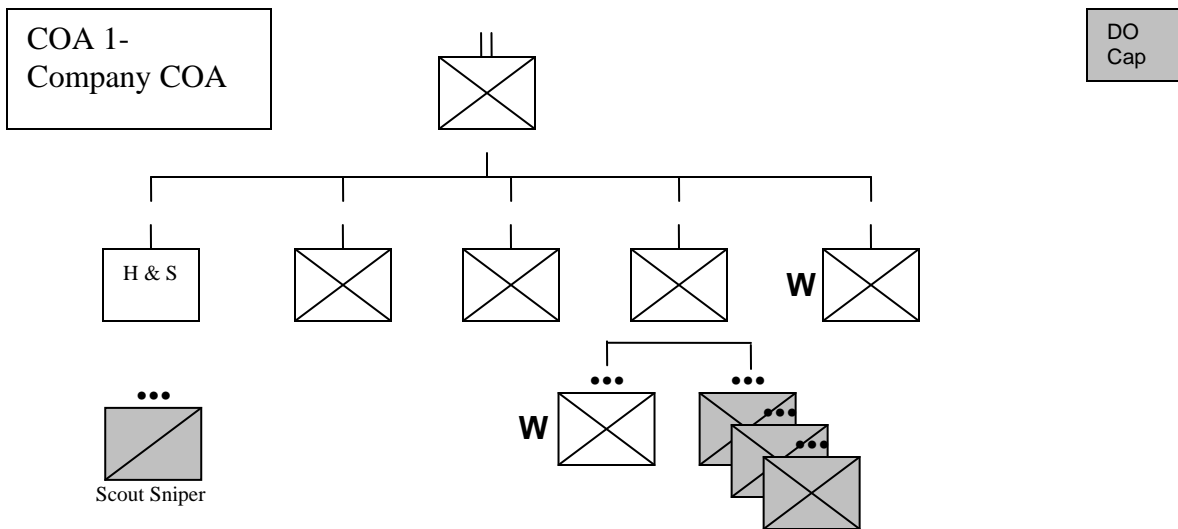


Figure 1: Company COA for distributed Operations as envisioned by CETO “DO: COA for the Establishment of the Initial Operating Capability” Draft 22 Apr 2004.

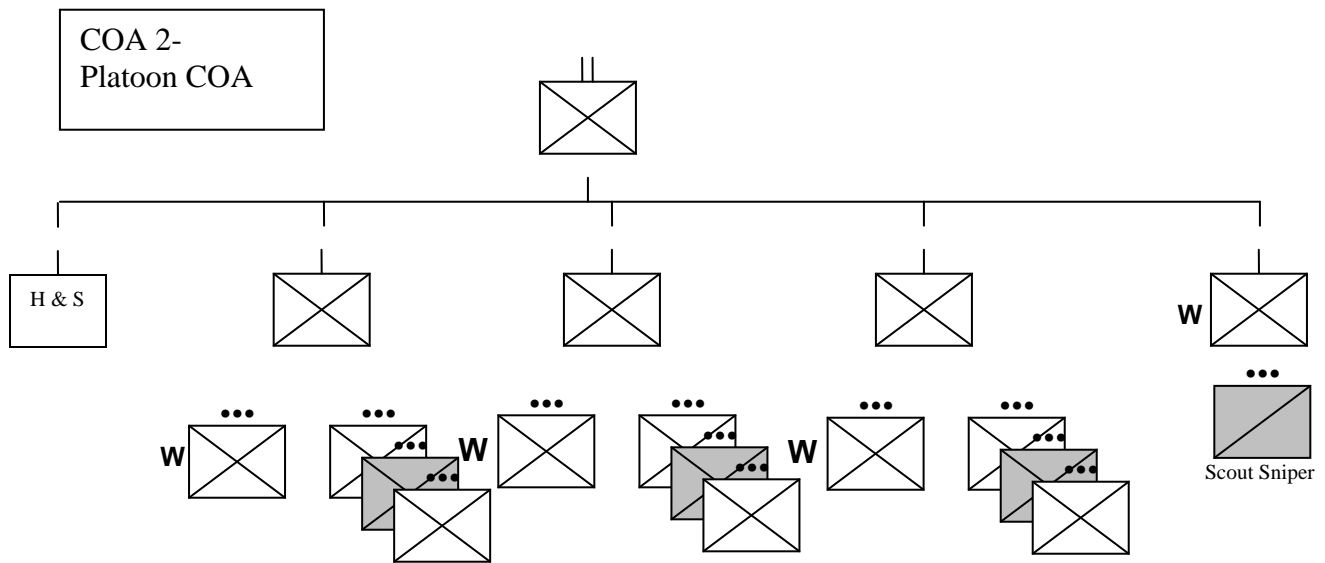


Figure 2 Platoon COA for distributed Operations as envisioned by CETO “DO: COA for the Establishment of the Initial Operating Capability” Draft 22 Apr 2004.

Endnotes

¹ Hoffman, “*Distributed Operations from the Sea*,” Pre-decisional Draft G, 5 October 2004, 4.

² **Distributed Operations:** -- “The concept of *Distributed Operations* describes an approach, applicable at the operational and tactical levels of war, by which a commander disperses and concentrates networked forces, generates actionable intelligence, and directs precise joint fires to shape the battlespace and act as “reconnaissance pull.”²

Functional concept – describes the performance of a particular [warfighting] function. [It] is subordinate to [an] operating concept.² Example – Ship-to-Objective maneuver is a functional concept describing one aspect of OMFTS.

Operating concept – describes generic strategic, operational, and tactical principles and schemes. They provide the foundation for how we operate in broad terms. Examples include mission tactics and Operational maneuver from the sea (OMFTS) and the complete system of primary operating concepts, maneuver warfare.²

Technical concept – describes the performance of a particular technical task. [It] is subordinate to [an] operating concept.² Example – Sensor-to-shooter is a technical concept which describes one specific fire direction technique.

³ Schmitt, “*A Critique of the HUNTER WARRIOR Concept*,” 15.

⁴ Hoffman, “*Distributed Operations from the Sea*,” Pre-decisional Draft G, 5 October 2004, 7.

⁵ Admiral Cebrowski, Arthur K., “*Transforming Transformation -- Will it Change the Character of War?*” URL <http://www.cia.gov/nic/PDF_GIF_2020_Support/2004_05_25_papers/transformation.pdf> Accessed 12 Dec 2004, 2.

⁶ Roman, Gregory A., LtCol, USAF, “The Command or Control Dilemma,” Essay on Strategy XIV URL <<http://www.ndu.edu/inss/books/Books%20-%202000/essa/essacdw.html>> Accessed 2 Mar 2005.

⁷ New World Vistas: Communications, Scientific Advisory Board draft (Washington, DC: Department of the Air Force, 1996), 17.

⁸ Schmidle, Robert E. BGen USMC, *Marine Corps Gazette*, “Distributed Operations: From the Sea,” July 2004. 39.

⁹ Schmidle, 38.

¹⁰ MCDP 1-0 *Marine Corps Operations*, Department of the Navy, Headquarters United States Marine Corps, Washington, D.C., September 2001, 2-2.-

¹¹ Col John Boyd, USAF (Ret), coined the term and developed the concept of the OODA loop.

¹² MCDP 1-0, 2-2.

¹³ As seen when the XIXth Panzer Corps crossed the Meuse River during the May 1940, General Guderian placed himself at the point of the most friction. His presence was not indicative of micromanagement -- rather the constant concern of an able commander to get his force through the friction inherent in war. His presence ensured that he was able to understand and predict requirements and allocate assets which were at his disposal and make them available to the commander executing his intent

¹⁴ Henri Fayol, (1841-1925) a French industrialist known as the “Father of Modern Management,” developed a theory of management with parameters, functions and principles, which are almost military in nature. Five functions, plan, organize, command, coordinate, and control.

¹⁵ **Span of Control.** The number of people a commander can effectively supervise.

¹⁶ MCDP 1, 55.

¹⁷ Burns, Robert, “*Military chiefs argue need for more troops*,” NewStandard: 7/11/99 URL <<http://www.s-t.com/daily/07-99/07-11-99/a08wn034.htm>> Accessed 20 Feb 2005.

¹⁸ Papastefanou, Nicolette “Virtual Organisations And Management: A Research Agenda,” Department of Public Relations and Business Communication, Tshwane University of Technology, Pretoria, South Africa, URL

<http://www.sba.muohio.edu/abas/2004/montreux/Papastefanou_Virtual%20organisations%20and%20management%20A%20research%20E2%80%A6.pdf> Accessed 2 Mar 2005.

¹⁹ **Matrix Organizations.** Matrix organizations combine the principles of project management and functional organization. These organizations call for more decisions, made at low levels. Matrix organizations have advantages of specialization and resource minimization.

<<http://www.bnet.com/abstract.aspx?kw=matrix%20management&docid=79381>> Accessed 12 Feb 2005.

²⁰ Hoffman, “*The 21st Century Marine Corps... Taking a Step to the Right*,” 5 Mar 2004.

²¹ MCDP 1, 5.

²² MCDP1, 10.

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